The Burden of Diabetes in Southeastern Health District

(Carbon, Emery, Grand, and San Juan Counties)

Diabetes is a major cause of morbidity and mortality. Southeastern Health District ranks 6th in diabetes prevalence among the 12 health districts. The following tables provide information on the burden of diabetes in the Southeastern Health District and in Utah. Data are provided for the following areas:

- **Diabetes prevalence: Overall, by age, and by race/ethnicity**
- **Diabetes-related mortality: Overall and by race/ethnicity**
- **Diabetes-related hospitalizations and their costs**
- **Cardiovascular risk factors and preventive health practices**
- **Health district prevalence rankings**
- **Care and complications reported by Utahns with diabetes**
- **General facts about diabetes**
- **Care provided to Utahns with diabetes as reported by Utah primary care providers**

The data presented in this profile highlight the challenges posed by diabetes in Utah and provide support to the view of diabetes as a serious public health problem. The data can be used to facilitate the development of appropriate interventions to meet the challenges related to diabetes in Utah.

11/02

Diabetes Prevalence

Close to 120,000 Utahns have diabetes. About 80,000 have been diagnosed, but almost a third of Utahns with diabetes, about 40,000 individuals, do not know they have it. Prevalence rates for diabetes in Utah have increased steadily in the past decade. In 1991, 2.3 percent of Utahns reported that they had been diagnosed with diabetes, increasing to 2.9 percent in 1996 and 3.5 percent in 2001.

Table 1. Number and Percentage of Utahns with Diagnosed Diabetes Southeastern Health District and Utah, 2001

	Southeastern Health District		State of Utah	
Age category	Number with Diabetes [a]	Percentage of Health District Population with Diabetes [a]	Number with Diabetes [a]	Percentage of Utah Population with Diabetes [a]
Less than 18	84	0.5	1,800	0.2
18-34	69	0.6	9,000	1.3
35-49	143	2.0	15,000	3.4
50-64	745	6.6	25,500	9.7
65 and over	854	14.2	28,200	14.5
All ages	1,900	3.6	79,800	3.5

[a] Small numbers make some percentages statistically unreliable.
Source: Utah Health Status Survey, 2001, Office of Public Health Assessment, Utah Department of Health, adjusted to reflect the Utah 2001 population. Figures in these columns may not sum to the total because of data weighting and missing values on the grouping variables.

Table 2. Estimated Prevalence of Diagnosed Diabetes by Race/Ethnicity, Utah, 2001

Race/Ethnicity	Percentage Distribution of the Population [a]	Number in Population	Percentage with Diabetes [b]
Non-Hispanic White	85.3	2,093,900	3.5%
Hispanic White/Other Hispanic	9.0	206,400	2.3%
Native American	2.3	51,900	6.2%
Asian American	1.6	37,200	3.4%
Hawaiian/Pacific Islander	1.0	21,600	4.5 %
Black	0.8	19,300	3.8 %

[a] Percentages are from the Office of Public Health Assessment. (2002). *Overview of the 2001 Utah Health Status Survey* (2001 Utah Health Status Survey Report). Southwest City, UT: Utah Department of Health. Governor's Office of Planning and Budget: http://www.governor.utah.gov/dea/Demographics/2000_Census Data/2000_census_data.html
[b] Percentages for all groups are taken from the Utah Health Status Survey, 2001. Note: Percentages are for the entire population. Younger populations tend to have lower overall rates of diabetes. Not all

racial/ethnic groups are included in the table (2.4 percent of Utahns of "other" race reported having diabetes). Some Utahns may be included in more than one category.

Mortality Data

Diabetes is the sixth leading cause of death, both nationally and in Utah. In 2000, diabetes contributed to one of every 12 deaths in Utah, or over 1,000 deaths.

Table 3. Diabetes as Underlying Cause of Death, Numbers and Rates Southeastern Health District and State of Utah, 1999-2001

Year	Southeastern Health District			State of Utah		
	Number	Crude Rate [a]	Age-Adjusted Rate [b]	Number	Crude Rate [a]	Age Adjusted Rate [b]
1999	13	23.9	27.1	407	21.4	31.9
2000	14	25.9	29.1	526	23.4	34.4
2001	10	18.9	20.1	509	22.2	32.3

[a] Average annual crude death rate per 100,000 Utahns.
[b] Age-adjusted annual death rate per 100,000 Utahns, U.S. 2000 Standard Population
Source: Utah Death Certificate Data, Office of Vital Records and Statistics, Utah Department of Health, 1999-2001
NOTE: Rates should be interpreted with caution due to small numbers.

Table 4. Diabetes-Related Mortality Rates [a] by Race/Ethnicity, Utah, 1999-2001

Race/Ethnicity [b]	Crude Rate [c]
Non-Hispanic White	51.5
Hispanic White	25.0
Asian/Pacific Islander	44.7
Black	43.4
Native American	61.8

[a] Diabetes as any listed cause of death
[b] Less than 2 percent of the death certificates for Hispanics listed a race other than white. Small numbers make this rate statistically unreliable.
[c] Per 100,000 Utahns in each racial /ethnic group using midyear population 2000. Lower crude death rates for Hispanics reflect the younger age of this population.
Source: Utah Death Certificate Data, Office of Vital Records and Statistics, Utah Department of Health, 1999-2001

Hospitalizations Due to Diabetes

Table 5. Diabetes-Related Hospitalizations, Numbers and Rates, Southeastern Health District and State of Utah, 2001

Cause of Hospitalization [a]	Southeastern Health District		State of Utah	
	Number	Age-Adjusted Rate [b]	Number	Age-Adjusted Rate [c]
Hospitalizations with Diabetes as Any Diagnosis	515	1,064.2	19,281	1,143.8
Diabetes as Primary Diagnosis	---	84.1	2,053	103.2
Diabetes and Acute Metabolic Complications	---	27.6	791	34.3
Diabetes and Major Cardiovascular Disease	132	274.0	4,698	292.3
Diabetes with Non-traumatic Amputation of Lower Limb	---	20.2	264	15.9
Diabetes with Renal Disease, Kidney Transplant, or Hemodialysis	---	78.3	1,765	103.9
Diabetes with Ophthalmic Manifestations	---	17.1	1,016	58.3

[a] Conditions may overlap, e.g., a discharge listing cardiovascular disease may also list renal disease and will be included in both categories above. Numbers include in-patient hospitalizations only for Utah residents.
[b] Per 100,000 population in the health district. Age-adjusted to the 2000 U.S. standard population.
[C] Per 100,000 Utah population. Age-adjusted to the 2000 U.S. standard population.
The following codes were used in this analysis:
Any listed (1-9) ICD-9-CM 250 for all diabetes-related hospitalizations
1st listed ICD-9-CM 250 for primary diagnosis of diabetes
ICD-9-CM 250.1 (ketoacidosis), 250.2 (hyperosmolar coma), or 250.3 (other coma) as primary diagnosis for acute metabolic complications
ICD-9-CM 390-448 as primary diagnosis and any listed ICD-9-CM 250 for major cardiovascular disease
Any listed ICD-9-CM 250 with a procedure code 84.1 for non-traumatic amputation of lower limb
Any listed ICD-9-CM 250.4 OR any listed ICD-9-CM 250 with procedure codes 55.6 (renal transplant) or 39.95 (hemodialysis) for renal disease, kidney transplant, or hemodialysis
Any listed ICD-9-CM 250.5 for ophthalmic manifestations Numbers for cells with less than 50 cases are not shown

Table 6. Cost of Hospitalizations Related to Diabetes: Utah, 1998-2001

Year	Number of Hospitalizations	Total Hospital Charges
1998	17,588	$189,100,000
1999	18,102	$205,830,000

2000	18,022	$210,927,665
2001	19,281	$233,626,993

Amounts for charges are included for year-to-year comparison purposes only.
Source: Utah Hospital Inpatient Discharge Database (2001), Utah Health Data Committee/Office of Health Care Statistics, Utah Department of Health, Salt Lake City, Utah 2002.

Cardiovascular Disease Risk Factors and Preventive Health Practices

Table 7. Percentage of Utah Adults (18 and Over) With and Without Diagnosed Diabetes With Cardiovascular Disease Risk Factors and Practicing Preventive Health Practices Southeastern Health District and State of Utah 1999-2001

Risk Factors	Southeastern Health District		State of Utah	
	Adults With Diabetes	Adults Without Diabetes	Adults With Diabetes	Adults Without Diabetes
Told They Have High Blood Pressure [a]	89.4	22.9	65.0	18.0
Overweight or Obese [b]	66.2	52.9	74.4	47.6
Current Smoker [b]	3.2	19.5	4.7	10.5
Had Routine Checkup in Last Year [a]	71.2	58.7	85.5	59.0
Had Cholesterol Checked in Last Year [a]	72.8	37.7	77.7	37.1
Told They Have High Cholesterol [a]	42.4	24.1	49.3	27.8

Source: Behavioral Risk Factor Surveillance System, 1999-2001, Bureau of Health Promotion, Utah Department of Health [a] Asked in 1999 and 2001 only [b] Asked all three years

Health District Rankings

Table 8. Percentages and Numbers of the Utah Population With Diabetes by Health District (2001)			
Health District	Percentage of Population Diagnosed with Diabetes	Ranking by Percentage (low to high)	Number of Residents with Diagnosed Diabetes
State of Utah	3.5%		79,800
Bear River	3.2%	5	4,500
Central Utah	4.3%	10	2,900
Davis County	2.7%	3	6,600
Salt Lake Valley	3.7%	7-8 (tie)	33,900
Southeastern Utah	3.6%	6	1,900
Southwest Utah	4.4%	11	6,500
Summit County	2.0%	1	600
Tooele County	3.7%	7-8 (tie)	1,700
TriCounty	4.5%	12	1,900
Utah County	2.8%	4	10,800
Wasatch City/County	2.6%	2	400
Weber-Morgan	3.9%	9	8,100

Source: Utah Health Status Survey, 2001, Office of Public Health Assessment, Utah Department of Health, adjusted to reflect the Utah 2001 population. Figures in the number column may not sum to the total because of data weighting and missing values on the grouping variables.

Did You Know?

- Utah adults with diagnosed diabetes are more than one and one-half times as likely to be overweight or obese than Utah adults without diagnosed diabetes (74.4% vs. 47.6%) but less than one-half as likely to be a current smoker (4.7% vs. 10.5%). [a]
- Utah adults with diagnosed diabetes were more than three and one-half times as likely to be told they had high blood pressure than Utah adults without diagnosed diabetes (65.0 % vs. 18.0%) and nearly twice as likely to have been told they had high cholesterol (49.3% vs. 27.5%). [a]
- The average age at diagnosis in the Utahns with Diabetes Survey was reported to be 46.9 years. [b]
- Just over one fourth of Utahns with diabetes (28.7%) report seeing a podiatrist annually. [b]
- Nearly 15 percent (14.8%) of Utahns with diabetes report having cataracts; 15.3 percent report having macular degeneration, and 12.8 percent report having diabetic retinopathy. [b]
- Over one-half of Utahns with diabetes report having neuropathy. [b]
- Nearly 30 percent (29.1%) of Utahns with diabetes have or have had periodontal disease. [b]

Sources: [a] Behavioral Risk Factor Surveillance System, 1999-2001, Bureau of Health Promotion, Utah Department of Health, [b] Utahns with Diabetes Survey, Utah Diabetes Prevention and Control Program, Utah Department of Health

General Facts About Diabetes

- Factors that contribute to the increase in diabetes prevalence in Utah include: 1) aging of the population,
  2) increasing obesity, 3) increasing sedentary lifestyles, 4) increasing proportion of ethnically diverse

populations in Utah, and 5) expansion of the diagnostic criteria defining diabetes.

- **If not well controlled, diabetes can lead to a number of serious complications including blindness, amputation, cardiovascular disease, and kidney failure.**

  ***Loss of vision* - Diabetes is the leading cause of blindness among adults between the ages of 25-74.** [a]

  ***Amputations of the toe, foot or leg* - Over half of all non-traumatic lower extremity amputations occur in people with diabetes. In 2001, there were 264 hospital discharges listing lower extremity amputations for Utahns with diabetes.** [b]

  ***Heart attack and stroke* - Diabetes increases the risk of these life-threatening events by two to four times. Over 4,500 hospital discharges listed cardiovascular complications for Utahns with diabetes in 2000.** [b]

  ***Renal failure*- In 2000, over 1,600 hospital discharges listed renal disease, kidney transplant or hemodialysis for Utahns with diabetes.** [b] **There were 406 Utahns with diabetes on dialysis, representing 47 percent of all Utahns on dialysis.** [c]

Sources: [a] www.cdc.gov/diabetes, [b] Utah In-Patient Hospital Database, Office of Health Care Statistics, Utah Department of Health, [c] End-Stage Renal Disease, Network 15

Provider Care

In a survey conducted in 2001, Utah providers (primary care physicians, physician assistants and nurse practitioners) reported the following:

- **Over 55 percent of primary care providers report they typically screen their patients for diabetes**
- **The most commonly used screening test is the fasting glucose test, with 71 percent of providers reporting using this test**
- **Over 80 percent of primary care providers order an HbA1c exam at least once every six months for their patients with diabetes**
- **Just under 20 percent of primary care providers routinely order a fasting lipid profile for their patients with diabetes**
- **Just under 20 percent of primary care providers routinely order a microalbumin test for their patients with diabetes**

Source: Diabetes Care in Utah: A Survey of Primary Care Providers, 2001, Diabetes Control Program, Utah Department of Health.

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